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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,887	08/18/2003	Edwin Mitchell Sayers	10541-1724	3349
29074	7590	05/11/2005	EXAMINER	
VISTEON C/O BRINKS HOFER GILSON & LIONE PO BOX 10395 CHICAGO, IL 60610			HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/642,887	SAYERS, EDWIN MITCHELL	
	Examiner	Art Unit	
	Jason M. Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/18/2003</u>   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - a. Page 6, Paragraph 21, Lines 7-8: Typographical error – “green laser light 26, and the blue laser light 28” should read as “green laser light 24, and the blue laser light 26”;

Appropriate correction is required.

### ***Claim Objections***

2. Claims 1 and 16 are objected to because of the following informalities: “wave guide” is one word. Appropriate correction is required.
3. Claim 16 is further objected to because of the following informalities: Applicant recites, “the plurality of semiconductor laser light sources”, which lacks antecedent basis. In the rejection below, the examiner has assumed the applicant is referring to the “first semiconductor laser”. Appropriate correction is required.
4. Claim 19 is objected to because of the following informalities: Applicant recites, “waveguides are severally coupled to the focusing assembly”, which is syntactically incorrect. The examiner has based the below rejection on the best-deemed interpretation. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Scifres (U.S. Patent 6152588).

6. With regards to Claim 1, Scifres discloses an automotive lighting system including:

- A semiconductor laser light source [Figure 1: (25); Column 6, Lines 10-32] adapted to emit laser light of at least one wavelength;
- An optical waveguide [Figure 1: (27)] coupled to the semiconductor laser light source to guide and blend the laser light [Column 11, Lines 16-24]; and
- A focusing assembly [Figure 1: (12-18); Column 5, Lines 17-34].

7. With regards to Claim 2, Scifres discloses the semiconductor laser being an epitaxial structure including two light-emitting layers of distinct frequencies [Figure 4; Column 6, Lines 10-32; Column 9, Lines 20-44].

8. With regards to Claim 7, Scifres discloses the semiconductor laser being an epitaxial structure including three light-emitting layers of distinct frequencies [Figure 4; Column 6, Lines 10-32; Column 9, Lines 20-44].

9. Claims 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Collins, III et al. (U.S. Patent 6822991).

10. With regards to Claim 11, Collins discloses a light emitting device including:

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- A semiconductor laser [Column 1, Lines 12-16] defining an emitting surface and adapted to emit laser light of a predetermined wavelength [Column 4, Lines 25-37; Column 5, Lines 50-54]; and
- A phosphor layer [Figure 4: (35)] coupled to the emitting surface of the semiconductor laser such that laser light emitted from the semiconductor layer causes phosphorescence in the phosphor layer, and further such that light including a plurality of frequencies is emitted from the phosphor layer [Column 6, Lines 5-11].

11. With regards to Claim 12, Collins discloses the semiconductor laser emitting light corresponding to a blue wavelength [Column 6, Line 6].

12. Claims 16-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Scifres (U.S. Patent 6152588).

13. With regards to Claim 16, Scifres discloses an automotive lighting system including:

- A first semiconductor laser light source [Figure 1: (25-middle); Column 6, Lines 10-32] adapted to emit laser light of at least one wavelength;
- A first network of optical waveguides [Figure 1: (28A, 28B)] coupled to the semiconductor laser light source to guide and blend the laser light [Column 11, Lines 16-24]; and
- A focusing assembly [Figure 1: (13, 17, 18); Column 5, Lines 17-34] coupled to the optical waveguide to direct the laser light, whereby the focusing assembly is disposed remotely from the semiconductor laser light source.

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14. With regards to Claim 17, Scifres discloses a second semiconductor laser [Figure 1: (25-left)] that emits laser light of a second selected wavelength.

15. With regards to Claim 18, Scifres discloses the first network of optical waveguides being a bundle of fiber optic channels [Column 5, Lines 48-50].

16. With regards to Claim 19, Scifres discloses a second semiconductor laser [Figure 1: (25-left)] that emits laser light of a second selected wavelength, wherein the second laser is coupled to a second network of optical waveguides [Figure 1: (29A, 30A)], and further wherein the first network of optical waveguides and the second network of optical waveguides are seperably coupled to the focusing assembly [Figure 1: (12-14, 17-18)] such that laser light of distinct frequencies is blended in the focusing assembly.

17. With regards to Claim 20, Scifres discloses the focusing assembly including headlamps [Figure 1: (16)], taillights [Figure 1: (12)], turn signals [Figure 1: (15)], and interior lighting [Figure 1: 17-18)] for an automotive vehicle.

18. With regards to Claim 21, Scifres discloses the focusing assembly including an optic, wherein the optic includes an aspherical section [Figure 1: (16)].

19. With regards to Claim 23, Scifres discloses an array of semiconductor lasers coupled to at least the first network of optical waveguides, whereby the array of semiconductor lasers includes at least the first semiconductor laser [Figure 1A; Column 5, Lines 35-37].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 3-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scifres (U.S. Patent 6152588) as applied to Claims 2 and 7, respectively above, and further in view of Thornton (U.S. Patent 5319655).

21. With regard to Claims 3 and 8, Scifres discloses the claimed invention as cited above, but does not specifically teach the two/three light-emitting layers being gain-guided waveguides.

Thornton teaches a semiconductor laser with two/three light-emitting layers incorporating a gain-guided waveguide [Column 3, Lines 48-49]. Such cladding/gain-guided waveguides are commonly known in the art.

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the semiconductor laser of Scifres to incorporate the gain-guided waveguides of Thornton in order to simply provide a desired orientation with respect to the illumination.

22. With regard to Claims 4 and 9, Scifres discloses the claimed invention as cited above, but does not specifically teach the two/three light-emitting layers being index-guided waveguides.

Thornton teaches a semiconductor laser with two/three light-emitting layers incorporating index-guided waveguides [Column 4, Lines 58-62]. Such distributed Bragg reflector (DBR) mirrors/index-guided waveguides are commonly known in the art.

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the semiconductor laser of Scifres to incorporate the index-guided waveguides of Thornton in order to simply provide a desired orientation with respect to the illumination.

23. With regard to Claims 5, 6, and 10, Scifres in view of Thornton discloses the claimed invention as cited above. In addition, Scifres teaches emitted light of two/three distinct wavelengths [Column 6, Lines 10-32], whereby the color (e.g., red, cyan, yellow, blue, green) may be chosen according to preference.

24. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins, III et al. (U.S. Patent 6822991) as applied to Claim 11, and further in view of Doxsee et al. (U.S. Patent 6765237).

Collins discloses the claimed invention as cited above. In addition, Collin teaches a multicolor/tri-color phosphor layer [re: Claim 14; Column 5, Line 62 – Column 6, Line 11], but does not specifically teach the semiconductor laser emitting light of an ultraviolet wavelength [re: Claim 13], or in combination with said phosphor layer in producing a substantially white light [re: Claim 15].

Doxsee teaches, "The lamp may include any **semiconductor UV light source** that is capable of producing **white light** when its emitted radiation is directed onto the **phosphor**... However, as used herein, the term is meant to encompass all semiconductor radiation sources including **semiconductor laser diodes** [Column 4, Lines 16-35].



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It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the light emitting device of Collins to incorporate the ultraviolet semiconductor laser in combination with a phosphor layer, as taught by Doxsee, in order to provide a substantially white light.

25. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scifres (U.S. Patent 6152588) as applied to Claim 16, and further in view of Natsume (U.S. Patent 5603563).

Scifres discloses the claimed invention as cited above, but does not specifically teach the focusing assembly including an optic having a substantially smooth surface with alternating straight and annular portions.

Natsume teaches an automobile lighting assembly including an optic [Figures 1-2] with a substantially smooth surface, wherein said surface has alternating straight [Figures 1-2: (8)] and annular [Figures 1-2: (7)] portions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote lighting system of Scifres to incorporate a lens (substantially smooth surface) with alternating straight and annular portions in order to provide a desired optical effect [e.g., low beam pattern] with respect to illumination.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 4651322 to Shimizu et al;

US Patent 4932747 to Russell et al;

US Patent 5222793 to Davenport et al;

US Patent 5278856 to Migita et al;

US Patent 5365413 to Krammer;

US Patent 6144683 to Floyd;

US Patent 6693933 to Strzelecki

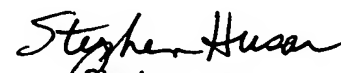
U.S. Publication 2004/0135504 to Tamaki et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason.M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (4/21/2005)

  
Stephen Husar  
Primary Examiner